

Investor Perceptions of the Earnings Quality Consequences of Hiring an Affiliated Auditor

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Abstract

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The Sarbanes-Oxley Act of 2002 (SOX) proscribes so-called “affiliated hires” of financial executives. In particular, SOX requires that firms wait at least one year before hiring an individual recently employed as a member of the firm’s external audit team. Using a sample of firms that employ new financial executives during the period leading up to SOX, we find that earnings response coefficients (ERC) computed using quarterly data decline following such hires, but ERC do not decline following hires of comparably-qualified financial executives not recently employed by the external auditor. Further investigation indicates relative declines in earnings persistence for firms that make affiliated hires, which potentially explains ERC changes. Such results support arguments advanced to justify the SOX requirement. More specifically, the evidence suggests that investors perceive that hiring from the firm’s external audit team impairs auditor independence, and thus, undermines earnings quality.

Investor Perceptions of the Earnings Quality Consequences of Hiring an Affiliated Auditor

1. Introduction

Until recently, audit firm personnel (partners, managers and staff) who worked on audit engagements were often hired by their audit clients to occupy financial administrative or oversight positions (henceforth “affiliated hiring”). Some argue that, when an auditor is hired as a financial executive by his/her former client, the resulting affiliation impairs the professional skepticism of the remaining members of the audit team (Independence Standard Board 2000, hereafter ISB), thereby compromising audit quality. In the extreme, the allegation is that such ties between the auditor and the client can lead to accounting irregularities and financial scandals, such as those that occurred recently at Enron, Waste Management, Global Crossing, HealthSouth and AIG. All of these companies are known to have had a tradition of hiring financial executives from their audit firms (Grimsley 2002; Schneider 2002; Weber, McNamee, Vickers, and Brady 2005).

To restore the confidence of market participants that auditors are independent of management, section 206 of the Sarbanes-Oxley Act (hereafter SOX) imposes a mandatory "cooling off" period of one year before a member of an audit engagement team can be employed by the audit team’s client in key financial positions, including CEO, CFO, CAO and controller.¹ When enforcing SOX, the U. S. Securities and Exchange Commission (SEC) presumes that “the provisions of the Sarbanes-Oxley Act

¹ The one-year “cooling off” period applies to all members of the audit engagement team who provide more than ten hours of audit, review or attest service. The “financial positions” includes director, chief executive officer, president, chief financial officer, chief operating officer, general counsel, chief accounting officer, controller, director of internal audit, director of financial reporting, treasurer, or an equivalent position (SEC 2003).

reflect the view that the passage of time is an additional safeguard to reduce the perceived loss of independence for the audit firm caused by the acceptance of employment by a member of the engagement team with an audit client” (*Final Rule*, SEC 2003, emphasis added). Thus, the SEC presumes that affiliated hiring adversely affects investor perceptions of financial reporting quality.

At least two scenarios support an adverse effect. The first is that, in deference to personal relationships formed during prior engagements, continuing auditors are less likely to question accounting methods and practices of recent colleagues now employed by the client than those of client personnel where a prior relationship does not exist. Additionally or alternatively, new financial executives recently employed by the auditor know details of the audit process that permit them to circumvent otherwise effective audit procedures. In either scenario, perceptions of auditor independence are potentially compromised (Imhoff 1978).

Notwithstanding the SEC’s position that affiliated hiring undermines auditor independence, an alternative perspective suggests benefits from hiring an affiliated auditor. Specifically, members of the firm’s audit team are typically better informed about the firm’s personnel and operations, client’s business strategy, industry specific issues and details of the firm’s accounting environment than other prospective hires (Beasley, Carcello, and Hermanson 2000). If so, then affiliated auditors are better able to address firm-specific accounting problems than otherwise equally-qualified individuals who, because they are not previously affiliated with the firm, are less familiar with the firm’s specific accounting and internal control issues. Thus, investor perceptions can be

influenced positively when a member of the outside audit team is hired as a financial executive.

Empirical analysis described in this study is designed to ascertain which, if either, of these competing perspectives dominates. Unlike prior work which examines whether affiliated hiring impacts accounting-based measures of earnings quality, we focus on perceptions of capital market participants.² Specifically, we investigate for the period leading up to the SOX requirements earnings response coefficients (ERC) computed as correlations between quarterly earnings changes and quarterly stock returns (designated long-window ERC) and ERC computed as correlations between quarterly earnings surprises and stock returns during the three-day period centered on quarterly earnings announcements (designated short-window ERC). Justification for this feature of the study is that ERC indicate, among other firm-specific factors, investor concerns about affiliated hires. Using samples of firms that hire new financial executives, we compare ERC during the three years before with ERC during the three years after the new hire. We find statistically significant ERC declines after affiliated hires. In contrast, firms that make unaffiliated hires do not experience such declines. Moreover, statistical comparisons indicate ERC changes following affiliated hires are reliably negative relative to ERC changes following unaffiliated hires.

We then focus on circumstances where concern about auditor independence or about firm-specific accounting problems is relatively more important. In particular, we consider sample partitions using measures that we expect to reflect accounting

² Auditors can be independent in fact or appearance. SEC policy statements typically emphasize perceptions of auditor independence (SEC 2000; Krishnan et al. 2005 Francis and Ke 2006). In contrast, prior work (discussed later) examines the association between affiliated hiring and independence in fact, measured by accounting accruals and the audit opinion (Menon and Williams 2004; Lennox 2005).

complexity. Reasoning behind this procedure is that the new CFO's familiarity with the firm's accounting issues is potentially more important for highly complex accounting environments. If so, then positive perceptions of earnings quality attributable to firm-specific expertise of the new financial executive potentially offset, or even dominate, negative perceptions attributable to concerns about impaired independence. Consistent with this logic, we find statistically significant ERC declines for low complexity, but not for high complexity, firms that make affiliated hires, although differences are statistically significant for short-window ERC only.

We also consider the possibility that audit committee composition potentially mitigates or exacerbates investor concerns about auditor independence or about the firm-specific knowledge of the accounting issues (e.g., Klein 2002; Bédard, Chtourou, and Courteau 2004). We partition the sample according to distinctions implied by SOX requirements – in particular, whether the audit committee includes a financial expert (Section 407, SOX 2002) and whether the audit committee is fully independent of management (Section 301, SOX 2002). Results indicate that ERC declines are more substantial and statistically significant for observations with either (or both) no accounting expert on the audit committee or an audit committee that is not fully independent from management. In contrast, we find no statistically significant ERC decline for firms with at least one accounting expert as a member of a fully independent audit committee. This result suggests a characterization where investor concerns about affiliated hires are less consequential when a strong, independent audit committee is in place.

While our focus on ERC permits conclusions about investor perceptions that affiliated hiring impairs independence, results for related studies, which focus on accounting-based earnings quality indicators, are mixed regarding the issue of whether such perceptions are justified (e.g., Menon and Williams 2004; Geiger, North, O’Connell 2005; Dowdell and Krishnan 2004). To reconcile these apparently conflicting results, we consider whether non-market based indicators of earnings quality are consistent with investor perceptions that earnings quality is impaired. More specifically, motivated by results in Collins and Kothari (1989) which indicate that firm ERCs depend on earnings persistence, we find that firms that make affiliated hires experience relative declines in measures of quarterly earnings persistence. Thus, perceptions that affiliated hires impair earnings quality are apparently justified by declines in earnings persistence.

Policy-relevant implications of the study are not straightforward. In particular, the finding that, in the aggregate, perceptions of earnings quality are compromised when firms hire their auditors into position of financial responsibility justifies regulator concerns about the consequences of such hires, and in particular, supports the one-year “cooling-off” proscription of affiliated hiring imposed by SOX. On the other hand, the finding that adverse consequences are confined to firms with low accounting complexity and weak governance questions the “one-size-fits-all” approach to regulation which characterizes SOX requirements (Holmstrom and Kaplan 2003; Romano 2005; DeFond, Hann, and Hu 2005).

The remainder of the paper is organized as follows. We develop and present hypotheses in the next section. The data and the testing approach are described in

Section 3. Primary results are presented in Section 4. Concluding remarks are in Section 5.

2. Development of Hypotheses

SOX guidelines specify individuals who work for greater than ten hours as a member of a firm's audit engagement team as *affiliated* with respect to the firm.

Although we can identify whether a new hire worked for the firm's auditor, we cannot use publicly-available information to identify members of the firm's audit team.³

Moreover, we cannot identify precise dates when a hire joined the company or left a prior employer. Thus, for the purposes of this study, we consider as affiliated, individuals employed in auditing capacity by the firm's auditor during either the current or the prior year. The objective is to ascertain how hiring an affiliated individual as a financial executive affects investor perceptions of earnings quality.

Despite recent regulatory actions, the consequences of hiring an affiliated auditor are not obvious. Arguments that suggest positive consequences typically presume that the member of the firm's audit team can more quickly, efficiently, and/or reliably execute or administer the financial reporting process than an otherwise equally-qualified hire. For example, Susan Coffey, AICPA vice president of self-regulation, states "in many cases it is helpful to companies if their auditors go to work for them because they bring knowledge and expertise of the company's line of work" (Grimsley 2002). Thus, an affiliated auditor is likely to be familiar with accounting systems, firm management and

³ Although most firms do not disclose whether the new hire previously worked on the audit engagement team, 18 of the 100 firms that hired affiliated auditors in our long-window ERC sample, note that the new hire worked previously on the firm's audit team. For the remaining firms, while we cannot specifically identify the firm's audit team, we can identify the specific office where the new hire worked for 17 cases. In 14 of these 17 cases, the hire worked for the office that audited the client. These findings suggest many, if not most, of the hires we classify as affiliated were part of the firm's the audit team.

personnel, and accounting issues that distinguish the company (Beasley, Carcello, and Hermanson 2000). If such familiarity with firm-specific accounting characteristics is an important determinant of earnings quality, then this perspective, designated the *expertise hypothesis*, suggests that hiring the affiliated auditor improves earnings quality.

Competing arguments suggest that affiliated hires influence earnings quality adversely. These arguments typically presume that loyalties developed through associations between or among auditors and client personnel impair independence, or that specific knowledge of audit procedures or strategies designed to uncover errors or intentional misrepresentations permits affiliated hires to circumvent procedures (ISB 2000).⁴ This perspective, designated the *independence hypothesis*, suggests that hiring an affiliated auditor impairs financial reporting oversight, and thus, degrades earnings quality.

The independence hypothesis apparently underlies recommendations and legislation that discourage or proscribe firms from hiring affiliated auditors. In particular, Section 206 of the SOX Act imposes a mandatory one-year "cooling off" period before a former auditor takes certain positions at the client. To comply with Section 206, companies must wait one year before they can employ the former auditor or switch to another audit firm if they want to employ the former auditor immediately. Such requirements limit the ability of companies to hire qualified people and add unnecessary

⁴ Recent financial scandals at Waste Management, Global Crossing, and Enron, elevate concerns about hiring affiliated auditors as financial executives, as these companies had a tradition of hiring financial executives from their audit firm, Arthur Andersen. Richard Causey, former chief accounting officer at Enron, joined the company after working on the Enron account as a senior manager at Arthur Andersen (Schneider 2002). Until 1997, every CFO and CAO of Waste Management worked previously at Arthur Andersen (Schneider 2002). At Global Crossing, Joseph Perrone, the firm's senior vice president of finance, was the engagement partner on the account when he was at Arthur Andersen (Grimsley 2002). More generally, the 1999 Committee of Sponsoring Organizations of the Treadway Commission (COSO) report shows that 11% of the CFOs in a sample of companies involved in financial fraud worked with the companies' audit firms immediately prior to joining the company (Beasley, Carcello and Hermanson 2000).

costs to companies (ISB 2000). Opponents of Section 206 requirements note further that the one-year requirement restricts placement opportunities for audit firm employees. If so, then the requirement potentially undermines the ability of audit firms to attract qualified employees, and thus, compromises audit quality (DeFond and Francis 2005).⁵ Notwithstanding these criticisms, the SEC not only adopted the one-year “cooling off” period, but also extended the requirement to include any person with a financial reporting oversight role.

Prior literature

Despite concerns expressed in the business press and by regulators, relatively little of the academic accounting literature considers how the practice of hiring former auditors as financial executives affects perceptions of market participants, although a number of studies examine associations between affiliated hires and accounting-based measures of earnings quality. This void in the literature belies the importance of the issue to academic accountants. To illustrate, in discussing auditor independence, Johnstone, Sutton and Warfield (2001, p. 15) note that “while the incentive effects of financial dependence are well explored (Simunic 1984 and subsequent studies), other incentives involving personal relationships and potential employment received less attention, although they are likely as important.” Moreover, DeFond and Francis (2005, p.17) “believe this [affiliated hiring] continues to be an important issue and further research is desirable because of the chilling effect it [the ‘cooling off’ period] may have on accounting firms.”

⁵ The consequences of Section 206 restrictions with respect to attracting qualified individuals into the profession are both long-term and unlikely to be firm-specific. Thus, documenting such effects is beyond the scope of this study. When evaluating the policy implications of evidence documented in this study, one needs to consider such potentially adverse consequences of the regulation.

Even so, several recent studies are potentially relevant for setting expectations about associations between affiliated hires and earnings quality. Using discretionary accruals as a proxy for earnings management, Menon and Williams (2004) show that companies with affiliated hires have both higher signed (income-increasing) and absolute discretionary accruals. On the other hand, Dowdell and Krishnan (2004) find affiliated CFOs have higher signed discretionary accruals in some, but not all, specifications, but they find no association for absolute accruals. Moreover, Geiger, North, and O'Connell (2005) find that companies with affiliated hires do not exhibit significantly higher *changes* in absolute discretionary accruals than either companies that make unaffiliated hires or companies that retain incumbent financial executives. Also, Geiger and North (2006) find no difference in discretionary accrual changes following affiliated CFO hires versus CFO hires from other CPA firms.

Lennox (2005) finds a lower incidence of qualified and modified audit opinions for firms with affiliated hires than other firms. If the incidence of qualified/modified audit opinions indicates audit quality, then this result suggests that auditor independence is impaired when firms hire affiliated auditors. Finally, evidence in Geiger, Lennox and North (2008) indicates small positive cumulative abnormal returns around the disclosure of affiliated hires by small companies. This evidence suggests perceived benefits from affiliated hires, which are consistent with the expertise hypothesis.

In its *Final Rule*, the SEC indicates that “the provisions of the Sarbanes-Oxley Act reflect the view that the passage of time is an additional safeguard to reduce the perceived loss of independence for the audit firm caused by the acceptance of employment by a member of the engagement team with an audit client” (SEC 2003,

Final Rule, Section II, emphasis added). Thus, the position of the Securities and Exchange Commission implies that capital market participants perceive that impairment of audit efficacy – and, by extension, degradation of earnings quality – is more substantial when the new financial executive was *recently* employed by the firm’s auditor. Thus, an important distinguishing feature of this study is the attempt to incorporate the time that transpires between the executive’s employment with the firm’s auditor and his/her employment by the firm.

Hypotheses

In sum, the existing literature is mixed – and as such, offers relatively little guidance -- regarding the earnings quality implications of hiring an affiliated auditor into a financial management position. These prior studies primarily use accounting-based measures as earnings quality indicators. In contrast, to distinguish whether the expertise or the independence hypothesis dominates perceptions of earnings quality by capital market participants, we compare market-based measures of investor perceptions of earnings quality for firms that hire affiliated auditors into a financial management position with perceptions of earnings quality for firms that hire new financial executives not recently employed by the firm’s auditor. Cross-sectional comparisons of earnings quality measures can be influenced by omitted variables, however. To mitigate the potential influence of omitted variables, we consider changes in measures of earnings quality at the time the firm hires executives involved in the financial reporting process. We use the term *personnel actions* to describe such events, and we distinguish personnel actions according to whether the firm hires an affiliated or an unaffiliated auditor.

Hypothesis 1: The change in investor perceptions of earnings quality following personnel change is independent of whether the change involves hiring an affiliated auditor.

Rejecting the null hypothesis in favor of a greater increase in earnings quality for the sample that hires an affiliated auditor supports the expertise hypothesis. On the other hand, rejecting in favor of a decline in earnings quality supports the independence hypothesis.

At least two concerns suggest a cautious interpretation of evidence regarding hypothesis 1 and, thus, influence details of the testing approach. First, earnings quality impairments may occur before, rather than after, the personnel action. For example, consider a member of the audit team, who aspires to a position with the client firm. Such individuals may have incentives to concede or overlook a questionable accounting practice in order to ingratiate management and elevate the possibility of employment with the client. To the extent that this characterization applies, audit quality – and thus, earnings quality – is impaired before, not after, the personnel action.⁶

Second, one needs to allow for the possibility that decisions to employ an affiliated auditor are endogenous to earnings quality. For example, suppose that firms differ in terms of the extent that managers care about earnings quality. If hiring an affiliated auditor degrades earnings quality, then firms with managers who care about earnings quality are less likely than other firms to hire an affiliated auditor. Thus, the incidence of affiliated versus unaffiliated hires may be systematic. If we presume that the

⁶ The case of Lincoln Savings and Loan illustrates this point. The engagement audit partner of Arthur Young, Jack Atchison, who subsequently joined Lincoln Savings and Loan's parent company as its senior vice president, wrote "several letters to banking regulators and U.S. senators vigorously supporting the activities of ...Lincoln." During the congressional hearings following Lincoln's failure, Atchison was criticized for becoming a "proponent of the client's affairs" rather than a "public watchdog" (Knapp 2006).

prevailing (pre-personnel action) earnings quality indicates management's attitudes about earnings quality, then we anticipate associations between earnings quality before the hire and the decision to hire an affiliated auditor. For example, if an affiliated hire reduces earnings quality, then we expect that firms where earnings quality is high are less likely to hire affiliated auditors than firms where earnings quality is low. On the other hand, if an affiliated hire increases earnings quality, then we expect that firms where earnings quality is high are more likely to hire an affiliated auditor.⁷ Notice that both of these concerns suggest reasons to be particularly interested in cross-sectional differences in pre-personnel action earning quality between firms that make affiliated versus unaffiliated hires.⁸

Even beyond these concerns, interpretations of comparisons of earnings quality or changes in earnings quality are not straightforward. More specifically, factors that affect the relative benefits and costs of hiring an affiliated auditor as a financial executive likely differ across firms. If these factors suggest that the benefits of an affiliated hire outweigh the costs, then market participants likely interpret the effect on earnings quality favorably. In such cases, we anticipate that perceptions of earnings quality improve following an affiliated hire. On the other hand, if market participants perceive that the costs exceed the benefits, then we anticipate a reduction in perceptions of earnings quality.

⁷ Evidence in Lennox (2005) suggests that financially distressed firms that hire affiliated auditors are better performers than a sample of financially distressed firms that hire unaffiliated financial executives. Geiger, Lennox and North (2008) find in a larger sample that firms that hire affiliated auditors are younger and more profitable and have greater growth potential than firms that hire from other sources.

⁸ Related concerns about self-selection by firms as affiliated or unaffiliated hires are addressed using two-stage methods described later.

Thus, we condition investigations of hypotheses on firm characteristics that potentially influence trade-offs between independence and expertise. The objective of these analyses is to isolate circumstances where concerns about expertise or independence are most substantial. Focusing the analyses on these circumstances where the costs or benefits of expertise or independence are likely to influence perceptions of market participants potentially informs thinking about the relative costs and benefits of hiring an affiliated auditor.

Following Doyle, Ge, and McVay (2007) and Ashbaugh, Collins, and Kinney (2007), we presume that complex firms are more likely to have unique financial reporting and complicated internal control issues than firms with simpler, more manageable, operations. If affiliated auditors are more familiar than other candidates with firm-specific accounting and internal control issues, then the relative importance of expertise varies directly with accounting complexity, and the trade-off between independence and expertise favors expertise. To investigate this possibility, we address the following hypothesis.

Hypothesis 2 (financial complexity): *Associations between hiring an affiliated auditor and investor perceptions of earnings quality are independent of financial accounting complexity.*

Another potentially relevant characteristic is whether the audit committee provides sufficient oversight. If audit committees are effective, then we expect that outsiders are less concerned about independence or competence of the financial executive. Thus, we condition associations between hiring an affiliated auditor and earnings quality on audit committee characteristics that potentially exacerbate or

attenuate concerns about independence or expertise. In particular, following prior studies (e.g., Klein 2002; Carcello and Neal 2003; Krishnan 2005; DeFond, Hann, and Hu 2005) we distinguish whether the audit committee includes a financial expert and whether the audit committee is fully independent from management. The following hypothesis applies.

***Hypothesis 3 (audit committees):** Associations between hiring an affiliated auditor and investor perceptions of earnings quality are independent of audit committee characteristics.*

Notice that expectations are not straightforward about how firm characteristics influence the trade-off between audit committee independence and expertise and how decisions to hire an affiliated auditor influence perceptions of earnings quality. To illustrate, evidence reported in Gore, Matsunaga, and Yeung (2008) suggests that financial expertise is more important in financially complex firms. If so, then hiring an affiliated CFO in complex firms is more advantageous than hiring an unaffiliated CFO. On the other hand, one can also speculate that earnings manipulations that potentially impair earnings quality are less transparent in financially complex firms, which implies greater concern about whether an affiliated CFO hire compromises independence. Thus, the role of financial complexity, and thus, associations between complexity and how affiliated hiring affects investor perception of earnings quality are not obvious.

Similarly, the use of independent directors on audit committees is typically interpreted favorably with respect to oversight of the financial reporting and internal control process (e.g., SOX 2002). If so, then having a wholly independent audit committee potentially mitigates concerns about management independence and moves

investor evaluations of earning quality in the direction of greater relative concern about financial expertise provided by an affiliated hire. A competing line of reasoning is that an audit committee with management representation potentially provides more informed – and thus, more competent -- oversight of a new CFO, which can mitigate investor concerns about whether the CFO-auditor relationship is sufficiently independent. Hence, how audit committee characteristics influence assessments of earnings quality after an affiliated hire is also not straightforward.

The point here is that we lack a convincing theory about precisely how complexity and corporate governance factors form investor perceptions of independence and expertise. Hence, we are reluctant to offer definitive predictions regarding how complexity and governance influence the relative costs and benefits of an affiliated hire and how an affiliated hire influences perceptions of earnings quality.

3. Testing Approach and Sample

Indicators of affiliated hiring

Provisions of the Sarbanes-Oxley Act (Section 206) restrict SEC registrants from hiring personnel from their audit firm into financial executive positions. More specifically, companies that aspire to hire their former auditor as a financial executive must either wait one year before employing the former auditor or switch to another audit firm if they employ the former auditor immediately. Individuals deemed to have a financial reporting oversight role include directors, the chief executive officer, president, chief financial officer, chief operating officer, general counsel, chief accounting officer, controller, director of internal audit, director of financial reporting, treasurer, or an equivalent position (SEC 2003).

As a practical matter, we typically cannot identify specific dates when auditors leave their audit firms and when they are hired by former clients. Thus, to consider the one year “cooling off” period, we identify instances where disclosure in the proxy statement, the 10-K filing, or the press release indicates that a newly hired financial executive was employed by the firm’s auditor during the same or the prior year that s/he is hired by the firm. More formally, we designate calendar year t as the year that the financial executive is hired such that year $t-1$ is the year before the hire. Firms where a new financial executive was employed recently by the firm’s auditor in calendar year t or $t-1$ are designated affiliated hires.

Market-based measures of earnings quality

We employ two ERC measures, both estimated as correlations between cumulative abnormal common stock returns and quarterly earnings surprise using the following generic specification.

$$CAR = \delta_0 + \delta_1 ES + \varepsilon, \quad (1)$$

where CAR is a cumulative abnormal return measure, ES is a measure of quarterly earnings surprise, and the parameter estimate δ_1 is ERC. Specifics of the cumulative return period and the measure of earning surprise distinguish the two ERC measures.

The extant literature uses either an “association” approach or an “event study” approach to compute ERC (Collins and Kothari 1989; Kothari 2001). Taking an “association” approach, we estimate δ_1 from expression (1) using cumulative abnormal return (designated $CARI$) for the three month period ending one month after the fiscal quarter end and using quarterly earning surprise (ESI) measured as quarterly earnings per share less the earnings per share for the same quarter of the prior fiscal year deflated by

the stock price at the beginning of the quarter. ERC computed using *CAR 1* and *ESI* are designated *long-window ERC*.

Taking an “event” study approach, we estimate δ_I using cumulative abnormal return (*CAR2*) computed as the firm’s return less the CRSP value-weighted market return summed over the three-trading-day period centered on the quarterly earnings announcement date and using quarterly earning surprise (*ES2*) specified as quarterly earnings per share less the median of analyst forecasts outstanding within 90 days prior to the day before the earnings announcement deflated by the stock price at the beginning of the quarter. ERC computed using *CAR 2* and *ES2* are designated *short-window ERC*.

Advantages and disadvantages of the short-window versus the long-window approach for estimating ERC depend on beliefs about how and when earnings information is processed by market participants. If all value-relevant information contained in earnings is disclosed at the earnings announcement date, then short-window ERC is the more appropriate metric. On the other hand, if value-relevant earnings information is disclosed throughout the quarter, then the long-window approach is preferred. Advocating one approach over the other is beyond the scope of the study, and therefore, we report and discuss results using both measures.

Pre-versus post-hire ERC comparisons

The objective is to ascertain the consequences of an affiliated hire, regardless of when the hire is made. Prior investigations typically consider cross-sectional measures of earnings quality aligned on a specific calendar time regardless of the time between the hire and the measurement (Menon and Williams 2004; Lennox 2005). The disadvantage of ignoring the proximity of the comparison to the actual hire is that the consequences of

an affiliated hire potentially dissipate over time. In particular, as time passes, a new financial executive becomes less connected with the audit team and/or less familiar with current audit procedures, and the new executive's comparative advantage of firm-specific knowledge about the firm becomes less substantial. To address these concerns, we execute an analysis aligned on the hiring date.

In particular, we identify the specific year (designated year t) that the financial executive is hired. We then compare the mean quarterly ERC during the three years prior to the hire (years $t-1$, $t-2$, and $t-3$) with the mean quarterly ERC during the three years following the hire (years $t+1$, $t+2$, and $t+3$). Because we typically do not know the specific date that the new financial executive assumes responsibility for financial operations, we do not consider quarters during the year that the executive is hired (year t).

Primary Specification

We use the following specification to compare ERC.

$$CAR = \beta_0 + ES (\beta_1 + \beta_2 AFFIL + \beta_3 AFTER + \beta_4 AFFIL * AFTER) + controls + \varepsilon, \quad (2)$$

where cumulative returns CAR and the earnings surprise ES are defined above.

Expression (2) is applied to samples where the firm hires a new financial executive. These samples include observations both where the new hire is an affiliated auditor and where the new hire is not affiliated. The dummy variable $AFFIL$ distinguishes observations where the firm makes an affiliated hire ($AFFIL = 1$) from observations where the firm hires an unaffiliated financial executive, and the dummy variable $AFTER$ distinguishes post-hire ($t+1$, $t+2$, $t+3$) observations ($AFTER = 1$) from pre-hire ($t-1$, $t-2$, $t-3$) observations ($AFTER = 0$).

Given this construction, the parameter β_1 , which indicates mean ERC unexplained by the control variables for observations before the hire and where the pending hire is not affiliated with the firm, provides a benchmark for investigating the consequences of hiring a new financial executive and whether the new executive is from the firm's auditor. The parameter β_2 on the interaction $ES*AFFIL$ indicates the difference in mean ERC for observations where the new financial executive is an affiliated auditor. Therefore, the sum $(\beta_1 + \beta_2)$ is the mean ERC for observations before the hire where the pending hire is an affiliated auditor.

Notice that β_2 provides a direct test of whether ERC differs between affiliated and unaffiliated hires during the three years prior to the personnel action. Rejecting $\beta_2 = 0$ in favor of $\beta_2 < 0$ is consistent with the proposition that independence – and thus, earnings quality -- is impaired prior to hiring an affiliated auditor as the financial executive, but it is also consistent with the notion that firms with low earnings quality are more likely to hire an affiliated auditor. On the other hand, rejecting $\beta_2 = 0$ in favor of $\beta_2 > 0$ suggests that, for whatever reason, firms with high quality earnings are more likely to hire an affiliated auditor.

The parameter β_3 on the interaction $ES*AFTER$ indicates the change in mean ERC prior to versus after an unaffiliated financial executive is hired. Thus, mean ERC after the firm hires a financial executive who is not affiliated is the sum $(\beta_1 + \beta_3)$. This sum $(\beta_1 + \beta_3)$ provides a benchmark for determining whether the mean ERC after an affiliated hire is unusual.

Mean ERC after the firm hires an affiliated auditor is the sum $(\beta_1 + \beta_2 + \beta_3 + \beta_4)$. Notice that the sum $(\beta_2 + \beta_4)$ indicates ERC differences between affiliated and

unaffiliated hires after the hire. That is, rejecting $\beta_2 + \beta_4 = 0$ in favor of $\beta_2 + \beta_4 < 0$ indicates lower earnings quality after companies hire affiliated auditors, suggesting that the independence effects dominate expertise effects. In contrast, rejecting $(\beta_2 + \beta_4) = 0$ in favor of $(\beta_2 + \beta_4) > 0$ suggests that expertise effects dominate independence effects.

Finally, the parameter β_4 on the interaction $ES * AFFIL * AFTER$, which indicates the incremental effect of considering $AFFIL$ and $AFTER$ jointly, addresses hypothesis 1 regarding earnings quality changes following a personnel action. A positive estimate β_4 indicates that the change in mean earnings quality for firms that hire affiliated auditors is greater (or less negative) than changes for firms that hire an executive who is not affiliated. Thus, positive β_4 supports the expertise hypothesis. Conversely, a negative β_4 supports the independence hypothesis.

Control variables

ERCs are influenced by firm characteristics which can be correlated with decisions to hire an affiliated or unaffiliated CPA. Thus, specification (2) is estimated with control variables suggested by the literature as determinants of ERC. Specific control variables are book to market (BM) ratio, computed at the beginning of the quarter (Collins and Kothari 1989); firm size, considered as the log of the market value of common equity, computed at the beginning of the quarter; firm Beta estimated over 200 trading days prior to the earnings announcement period (Collins and Kothari 1989; Easton and Zmijewski 1989); and dummy variables to distinguish quarters where the firm reports a loss (Hayn 1995) and fourth-quarter earnings announcement (Salamon and Stober 1994). Both main effects for control variables and interactions of control variables with the earnings surprise, $CONTROL * ES$ are included. Finally, specifications

of expression (2) also include as control variables the main effects of the dummy variables *AFFIL* and *AFTER*, the related interaction *AFFIL*AFTER*, and calendar year dummy variables to consider mean effects on *CAR* of unspecified factors that vary over time.⁹

Sample

Table 1 describes the sample selection process. Using the Lexis-Nexis database, we identify companies that hire audit partners or managers from nationally-recognized audit firms by a keyword search of executives' employment histories in 10-Ks or proxy statement filings for fiscal year 2001 and news releases for appointments of financial executives during the period 1993 to 2001.¹⁰ We choose 1993 as the first year, because electronic filings are generally unavailable for prior years, and 2001 as the last year, as it is the year immediately prior to the July 2002 passage of SOX. The following hires are considered financial executives: chief executive officer (president), chief financial officer, chief accounting officer, controller, treasurer, vice president of finance, director of financial reporting, and director of internal audit.¹¹ The following audit firms are considered nationally-recognized: Arthur Andersen, Deloitte & Touche, Ernst & Young, KPMG, PricewaterhouseCoopers, Grant Thornton, BDO Seidman, BKD, Crowe Chizek

⁹ We are concerned about factors correlated with the hiring decision that potentially influence ERC, but we are also concerned that controlling for these factors can obscure differences related to hiring an affiliated auditor. Thus, we estimate specifications both with and without control variables. Results not tabulated are generally consistent with reported results for specifications that include control variables.

¹⁰ We do not search companies in the utilities (SIC 44-49) and financial (SIC 60-64) industries due to their special earnings properties.

¹¹ For companies with multiple financial executives with audit firm experience, the executive with the greater financial oversight role is retained for identification of affiliation. We assume the oversight role decreases in the following sequence: chief executive officer (president), chief financial officer, chief accounting officer, controller, treasurer, vice president of finance, director of financial reporting, and director of internal audit.

and McGladrey & Pullen. We also search names of predecessor firms and common misspellings.

For each company identified to have a financial executive with prior audit firm affiliation, we record the name of the executive, the position s/he held when s/he joined at the client, the executive's audit firm affiliation, the year the executive was hired, and the year that the executive left the audit firm. We exclude observations when any of the above information is missing, or when the employment history indicates that the executive worked in a non-audit capacity at the audit firm.

This process yields 999 firms that hire financial executives with audit firm experience. Of these, 420 are deleted because they are not in the COMPUSTAT file for the year of hire and another 61 are deleted because we cannot unambiguously identify the firm's auditor in the year of hire. Thus, 518 firms remain, which potentially yields 12,432 ($=518*24$) quarters, if all these firms have complete data three years before and three years after hiring. Notice that observations for the year that the hire is made are *not* included in the sample. These observations are used to create two samples: the first for estimating quarterly (long-window) ERC; the second for estimating ERC for the three-day (short-window) period centered on the quarterly earnings announcement.

For the long-window sample, 5,156 quarterly observations are missing either security returns (CRSP) or financial variables (COMPUSTAT). To ensure a constant sample of firms from years before to years after the hire, we omit 148 firms (1,112 observations) with no data either before or after the year of the hire. Finally we omit 251 observations where an auditor change after the hire alters the classification of the

observation from/to an affiliated hire.¹² These procedures yield 329 hires (100 affiliated) and 5,913 quarterly observations.

To obtain the short-window sample, we exclude 7,489 firm-quarters that are not available on the COMPUSTAT (financial variables), CRSP (daily stock returns) and/or the I/B/E/S (quarterly earnings forecasts) databases. We then eliminate 197 companies (1,224 quarters) with no data either before or after the year of hire and 113 observations where a post-hire auditor switch alters the affiliated/unaffiliated distinction.¹³ This process yields a final sample of 216 firms and 3,606 quarterly observations distributed within three years before or after the year of the financial executive hire.

Notice that all observations are from firms that hire financial executives with audit firm experience. Thus, ERC differences can be attributed neither to the fact that the firm hires a new financial executive nor to audit experience.¹⁴ That is, comparisons are between or among samples composed of observations with new hires with audit experience, and therefore, ERC differences are attributable to the characteristics of the new hire – in particular, whether the new hire has experience as an affiliated or an unaffiliated auditor.

On the other hand, we consider only hires where prior experience is disclosed. Thus, it is possible, even likely, that newly hired financial executives with audit

¹² For the long-window sample, among the firms with data both in pre- and post-hire period, 52 switched from the affiliated audit firm to an unaffiliated audit firm, and 10 switched from an unaffiliated firm to the affiliated audit firm. For these 62 firms, we omit observations in the quarters after the auditor switch.

¹³ For the short-window sample, among the firms with data both in pre-and post-hire period, 32 switched from the affiliated audit firm to an unaffiliated audit firm, and 5 switched from an unaffiliated firm to the affiliated audit firm. For these 37 firms, we omit observations in the quarters after the auditor switch.

¹⁴ Geiger and North (2006) find that audit quality generally increases following the appointment of a new financial executive.

experience are excluded from the analysis. We know of no systematic bias that results from this feature of the sampling process, however.

Descriptive statistics

Table 2, Panel A shows distributions of sample firms and observations for both the long-window and the short-window samples. The rows partition the samples according to whether the financial executive is hired within one calendar year from their employment as an auditor. The columns partition the sample according to whether the new hire's experience is with the firm's auditor or with another audit firm. The analysis focuses on comparisons of observations in the northwest cell with observations in the other three cells.

Table 2, Panel B indicates the distributions of the new hires according to calendar year. Notice that proportions of affiliated hires relative to unaffiliated hires is greater in earlier years, while companies tend to hire financial executives with experience at unaffiliated audit firms more recently. This feature of the data is potentially attributable to the Independence Standards Board (ISB 2000) recommendations which raised concerns about hiring affiliated auditors.

Table 3 shows descriptive statistics for both the long-window (Panel A) and the short-window (Panel B) samples. The last three columns in each table indicate comparisons for affiliations with unaffiliated hires. Firms that hire affiliated auditors are larger (higher log of market value, $\alpha < 0.001$), have greater intangible investment (lower *BM* ratios, $\alpha < 0.001$), and are less likely to report quarterly accounting losses ($\alpha < 0.001$). Between sample differences in the abnormal returns cumulated both over the quarter and over the three days that encompass the quarterly earnings announcement

(*CAR*), quarterly forecast error (*ES*), financial leverage (*LEV*), risk (*BETA*), and the incidence of fourth quarter earnings announcements are not statistically significant ($\alpha > 0.050$), however.

4. Results

Multivariate specifications – pre-versus post-hire comparisons (hypothesis 1)

We estimate expression (2) to investigate ERC differences before versus after the year that the financial executive is hired.¹⁵ Table 4 shows results for the specification for the long-window sample (Panel A) and the short-window sample (Panel B). For brevity, estimates for control variables included are not tabulated.¹⁶

The first two rows in each panel distinguish affiliated from unaffiliated hires. The third row compares observations for affiliated hires with observations where the hire is unaffiliated – that is, where the new hire was not employed by the firm’s auditor during either the current, or the prior year. Recall that quarters during the year that the financial executive is hired are not included in these analyses.

Consider the first column in each panel, which shows mean quarterly ERC for the twelve quarters (three years) prior to the fiscal year that the financial executive is hired. Comparing ERC for affiliated versus unaffiliated hires before the hiring year is useful for two reasons. First, these comparisons provide some evidence regarding the possibility that earnings quality is compromised in anticipation of an affiliated hire. That is, if an affiliated hire is anticipated, then perceptions of earnings quality, and therefore ERC, may be compromised prior to the hire. Second, factors that influence ERC can be related

¹⁵ Values in the 99th (first) percentile of the distribution are set to the 99th (first) percentile.

¹⁶ Among the control variables for ERC magnitude, we find ERC is lower for firms with loss in the current quarter ($p = 0.001$) and higher for larger firms ($p = 0.059$). None of the other control variables is significant. Results are robust when control variables are not included.

to factors that influence preferences for hiring an affiliated financial executive. If so, then pre-hire ERCs differ according to whether the hire is affiliated or unaffiliated and are the appropriate benchmark for identifying ERC changes. Such comparisons, provided in the third row in each panel, indicate that mean pre-hire ERC are greater, but differences are not statistically significant, for affiliated hires. This result contradicts the notion that ERC are impaired in anticipation of an affiliated hire. Moreover, the result informs interpretations of cross-sectional comparisons in quarters after the hire.

Next consider mean quarterly ERC during the twelve quarters (three years) after hiring a new financial executive, which are displayed in the second column of each panel, and before versus after ERC differences in means in the third column. Negative (positive) differences in the third column indicate ERC declines (increases) after the new hire. The entry in the third row of the third column compares before versus after ERC changes for affiliated with changes for unaffiliated hires. A negative entry here indicates that ERC declines are greater (ERC increases are less) for affiliated hires.

These comparisons indicate statistically significant ERC declines after hiring an affiliated, but not an unaffiliated, financial executive. Moreover, ERC declines are reliably greater for affiliated than unaffiliated hires. This result contradicts hypothesis 1 in favor of the independence hypothesis. That is, evidence in both panels indicate that ERC decline when the firm hires as a financial executive an individual recently employed by the firm's auditor.

Comparisons for partitions by accounting complexity (hypothesis 2)

Panels A and B in Table 5 display and compare ERC estimated from specifications of expression (2) where observations are partitioned according to a

measure of accounting complexity advanced in Wang (2006) and Gore, Matsunaga, and Yeung (2008).¹⁷ Some of these results contradict null hypothesis 2 that associations between hiring an affiliated auditor and ERC are independent of financial accounting complexity, but the evidence is inconsistent. In particular, ERC computed from short-windows (Panel B), but not for ERC computed using long-windows (Panel A), indicate statistically significant ERC declines after affiliated hires for low, but not for high, complexity observations. Moreover, these declines exceed declines for unaffiliated hires.

Comparisons for partitions by audit committee characteristics (hypothesis 3)

Panels C and D of Table 5 show and compare ERC estimates when observations are delineated according to audit committee characteristics. The columns on left distinguish audit committee with characteristics (subsequently) imposed by SOX. Specifically, these results are for observations where the audit committee is fully independent of management and where the committee includes one or more directors who qualify as financial experts by SOX criteria.¹⁸ Estimates displayed to the right of the table are for observations where either or both of these criteria are violated.

¹⁷ In particular, accounting complexity is $-3.616 + 0.069\text{Segments} + 0.362\text{Foreign Sales} + 0.345\text{Merger} + 0.512\text{Restructure} + 0.269\text{Growth} + 0.719\text{Inventory} - 0.052\text{Size}$, where Segments is the number of business segments in Compustat; Foreign Sales = 1, if the firm reports foreign sales (0, otherwise); Merger = 1 if Compustat indicates a merger or acquisition (0, otherwise); Restructure = 1 if Compustat indicates a restructuring (0, otherwise); Growth = 1 if sales growth exceeds the 2-digit SIC industry median (0, otherwise); Inventory is the ratio of inventory to total assets, and Size is the market value of equity. We compute a complexity score for each firm-year and then partition the observations at median.

¹⁸ An audit committee member is considered independent if s/he is an outside director and does not have an affiliation with the company (i. e., so-called “grey directors” are not independent). We define a financial expert as someone with accounting expertise, as defined by the SEC in its *proposal* for the implementation of Section 407 requirement of SOX. Subsequently, the SEC expanded the definition of financial expertise to include persons with other (non-accounting) experience as well (see DeFond, Hann, and Hu 2005 for a discussion). We use the narrow definition because recent studies (e.g., Dhaliwal, Naiker, and Navissi 2006; Krishnan and Visvanathan 2008) provide evidence that the earnings quality is higher for firms with accounting experts compared to those with non-accounting experts on their audit committees.

This evidence contradicts null hypothesis 3 that associations between hiring an affiliated auditor and investor perceptions of earnings quality are independent of audit committee characteristics. More specifically, pre- versus post-hire ERC changes are comparable between affiliated and unaffiliated hires for the sub-sample where audit committees conform with subsequently-imposed SOX requirements. In contrast, for the sub-sample with audit committee characteristics that differ from SOX requirements, ERC declines are substantially greater for affiliated hires.¹⁹

These results, which indicate more substantial ERC differences when audit committee characteristics cause investors to suspect oversight of the financial reporting process, suggest two points worth emphasizing. First, they corroborate our interpretation of primary results that ERC declines are attributable to investor concerns about the independence of the auditor from firm management. Second, the results apparently support SOX requirements that audit committees be fully independent from management and include directors whose credentials indicate that they are qualified to oversee the financial reporting process.

Comparisons for other partitions

Results (not tabulated) for two other partitions of the sample are potentially interesting. First, we delineate the observations according to the market value of equity. If we presume that the influence of a single new executive hire is more substantial for small, than for large, firms, then we anticipate more substantial before-versus-after ERC

¹⁹ Results not reported indicate negative, but not statistically significant ($\alpha > 0.05$), affiliated less unaffiliated ERC change for sub-samples partitioned according to whether *either* the audit committee is fully independent or the committee include directors with financial expertise. Thus, we cannot confidently opine regarding which of these requirements is more effective. Rather, the results suggest that the requirements combine to produce a governance system that alleviates investor concerns about financial reporting oversight.

differences for the small firm sample. The evidence is consistent with this expectation. In particular, comparisons for the large firm sample are not statistically significant ($\alpha > 0.05$). In contrast, results for small firms indicate a statistically significant decline in mean quarterly ERC for firms that hire affiliated auditors ($\alpha < 0.05$), although the difference between declines for affiliated versus unaffiliated hires is not statistically significant. Difficulties interpreting these results go beyond failure to achieve statistical significance between affiliated and unaffiliated hires, however. In particular, attributing these associations to investor concerns about independence (i.e., inordinate relative influence of a single new hire in a small versus a large firm) or about financial complexity (i.e., larger firms tend to be more complex) is not straightforward. Even so, this evidence suggests that earnings quality impairments that result from affiliated hiring are more substantial for small, than for large, firms.

Second, many of the hires in the sample occur during the period when some prominent Arthur Andersen clients experienced financial difficulties that were later recognized as high profile corporate failures. Thus, we are concerned about whether results are confined to Andersen clients. Results where we distinguish Andersen clients from other firms indicate that associations sustain when Andersen clients are removed from the sample. Moreover, although magnitudes of post-hire ERC declines are more substantial for Andersen clients than for client of other audit firms, the difference for Andersen clients between affiliated and unaffiliated hires is not statistically significant.

Comparisons using an alternative earnings quality measure

Recall that results reported in prior studies are mixed with respect to the earnings quality consequences of affiliated hires (e.g., Menon and Williams 2004; Dowdell and

Krishnan 2004; Geiger, North and O’Connell 2005). These prior studies typically consider accounting based measures typically advanced as indicators of earnings management. In contrast, analysis in this study focuses on ERC which are computed using security prices, and which potentially indicate perceived, rather than actual, earnings quality. Collins and Kothari (1989) demonstrate that ERCs vary directly with earnings persistence. Thus, earnings persistence is a particularly useful measure for linking results reported in Table 4 with accounting based measures, as the existing literature indicates a theoretical connection with ERC.

Hence, to reconcile results reported here with those reported elsewhere, we consider earnings persistence defined in terms of associations between earnings in the current (period t) quarter with earnings reported in the same quarter of the prior year (period $t-4$). More specifically, we estimate the parameters η_j ($j = 0, \dots, 7$) from the specification

$$EPS_t = \eta_0 + EPS_{t-4} (\eta_1 + \eta_2 AFFIL + \eta_3 AFTER + \eta_4 AFFIL * AFTER) + \eta_5 AFFIL + \eta_6 AFTER + \eta_7 AFFIL * AFTER + \eta_m year\ dummies + \varepsilon, \quad (3)$$

where EPS_t is quarter t earnings per share, and the dummy variables $AFFIL$ and $AFTER$ are defined previously.

Notice that, as in specification (2), the focus in specification (3) is on parameters $\eta_1 \dots \eta_4$, which distinguish earnings persistence for partitions of the sample classified according to whether observations are before versus after the hire and whether the hire is affiliated. In particular, the parameter estimate η_1 indicates quarterly earnings persistence before unaffiliated hires; the sum $(\eta_1 + \eta_2)$ indicates persistence before unaffiliated hires; the sum $(\eta_1 + \eta_3)$ indicates persistence after unaffiliated hires and the sum $(\eta_1 + \eta_2 + \eta_3 +$

η_4) indicates persistence after affiliated hires. Thus, η_4 indicates how earnings persistence change following an affiliated hire compare with earnings persistence change following an affiliated hire. For example, $\eta_4 < 0$ indicates that earnings persistence changes are more negative for affiliated, than for unaffiliated hires.

Table 6 displays parameter estimates for specification (3) applied to both the sample used to investigate long-window ERC (Panel A) and the sample used to investigate short-window ERC (Panel B). Notice that comparisons of earnings persistence are similar to those for ERC. In particular, η_4 are reliably negative for both samples. This evidence indicates declines in earnings persistence that support with declines in ERC implied by Collins and Kothari (1998). Thus, results in Table 6 corroborate results displayed in Table 4.²⁰

Other Procedures

Firms decide whether to hire an affiliated auditor as a financial executive, and prospective hires decide whether to accept positions that are offered. These points raise concerns about whether results are attributable to systematic differences between the test and control samples not considered in the regression specifications. To consider this possibility we estimate a probit specification that distinguishes affiliated from unaffiliated hires based on the firm characteristics in Geiger, Lennox and North (2008; Table 5).²¹

²⁰ Consistent with prior studies of the earnings quality consequences of affiliated hires (e.g., Menon and Williams 2004; Dowdell and Krishnan 2004; Geiger, North and O'Connell 2005), we find no persuasive evidence that indicators of earnings management change following either affiliated or unaffiliated hires of financial executives. Selected results are displayed as Appendix B.

²¹ Following Geiger, Lennox and North (2008), explanatory variables are the log of total assets, log of firm age, return on total assets, financial leverage, book-to-market ratio, and indicator variables distinguishing whether the hire is as a CFO, whether the hire was a partner in the audit firm, and whether the hire is male. We also include as explanatory variables the auditor tenure with the firm as a client and the age of the hire at the time of the appointment. The pseudo R-square for this specification is 0.141.

We use this specification in two ways. First, we include in specification (2) the inverse Mills ratio extracted from the probit specification and its interaction with earnings surprise. Results for these specifications are generally consistent with those in Table 4. In particular, the estimate β_4 , which compares affiliated versus unaffiliated post hire ERC changes, is negative and statistically significant for the long-window sample ($\alpha < 0.05$), but perhaps owing to collinearity induced by the use of this technique (Francis and Lennox 2008), the estimate β_4 is not statistically reliable for the short-window sample. In addition, the interaction between the inverse Mills ratio and earnings surprise is statistically significant in neither sample.

Second, following Francis and Lennox (2008), we match affiliated and unaffiliated hires using propensity scores computed from the probit specification.²² This procedure reduces the sample sizes considerably but avoids concerns about collinearity. Results for specifications corroborate those in Table 4, using both 1,734 matched observations from the long-window sample and 870 matched observations from the short-window sample. More specifically, estimates β_4 are reliably positive ($\alpha < 0.05$).²³

5. Concluding Remarks

We investigate quarterly ERC, computed over both three months (long-windows) and three-days centered on quarterly earnings announcements, before versus after firms hire new financial executives. The analysis is designed to inform thinking about regulation imposed subsequent to the test period that proscribes affiliated hiring, a

²² Specifically, for each affiliated firm, we identify two firms that have the closest predicted probabilities of hiring affiliated auditor. If one of the two potential matches is an unaffiliated firm, we choose that one as the match; if both potential matches are unaffiliated firms, we choose the one whose predicted probability is the nearest; and if both potential matches are affiliated firms, we determine there is no suitable match.

²³ Results for these analyses are displayed as Appendix A.

practice where firms hire current or recent members of the external audit team into financial executive positions.

Expectations about how affiliated hiring affects perceptions of earnings quality are predicated on two characterizations. The first, designated the *expertise hypothesis*, is that members of the firm's external audit team are likely to be better informed about firm-specific accounting-related factors that influence earnings quality. If investor perceptions conform to this characterization, then we anticipate relative improvements in earnings quality (greater quarterly ERC) after affiliated, than unaffiliated, hires. The second characterization, designated the *independence hypothesis*, is that affiliated hiring impairs external auditor independence, and by extension, undermines earnings quality. If investors perceive that affiliated hires compromise auditor independence, then we expect relative declines in earnings quality (lower quarterly ERC) after affiliated hires.

As a whole, the results suggest that the independence hypothesis dominates in the aggregate. We find no statistically significant increases in mean quarterly ERC after an affiliated hire. Thus, the expertise hypothesis is not supported. On the other hand, we typically find statistically significant declines in quarterly ERC following an affiliated hire, particularly in circumstances where concerns about financial reporting complexity and about audit committee oversight of the financial reporting process are likely to be substantial. In particular, ERC declines following affiliated hires are more substantial for low complexity firms where concerns about auditor independence likely dominate concerns about financial expertise. ERC declines are also more substantial for observations where audit committees lack a financial expert or are not fully independent from management, characteristics typically interpreted as indicators of weak audit

committee oversight. In contrast, the evidence typically indicates no statistically significant change in ERC after the firm hires a new financial executive who is not recently employed by the firm's auditor.

Evidence advanced in prior studies is mixed regarding the earnings quality consequences of affiliated hiring, and therefore, we attempt to reconcile our results with those reported elsewhere. Informed by evidence in Collins and Kothari (1998) that ERC depend in part on earnings persistence, we investigate associations between quarterly earnings and earnings for the same quarter in the prior year. Before versus after comparisons of these associations indicate statistically significant relative declines in earnings persistence after an affiliated hire. Such results corroborate relative declines in ERC.

The analysis provides policy-relevant insights regarding provisions of the Sarbanes Oxley Act. The negative market perceptions of earnings quality associated with affiliated executive hires supports SOX Section 206 which mandates a one-year "cooling-off" period for hiring members of a firm's audit team. Results for partitions by audit committee characteristics suggest that a strong audit committee (i.e., an audit committee fully independent from management with at least one financial expert among its membership) attenuates negative investor perceptions of affiliated hiring. These results support SOX provisions that impose independent audit committees with financial experts as members. Results for partitions based on financial complexity and audit committee characteristics considered in conjunction with results for partitions by measures of financial complexity further indicate that consequences of SOX regulation accrue

disproportionately across firms. Such evidence supports selective or conditional, rather than uniform economy-wide, enforcement of the SOX provision.

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Table 1
Sample Selection Process

	<u>Affiliated</u>	<u>Firms Unaffiliated</u>	<u>Total</u>	<u>Total Observations</u>
Firms (not in the utility or financial services industries) which hire a CPA firm manager or partner as a financial executive between 1993 and 2001			999	
Firms not on COMPUSTAT in the year of hire			420	
Firms missing auditor identity in the year of hire			<u>61</u>	
Firms (firm-quarter observations – the three years before and the three years after the hire) <i>potentially available</i>	158	360	518	12,432
Sample for long-window (quarterly) ERC specifications				
observations missing security returns (CRSP), or financial variables (COMPUSTAT)	8	33	41	5,156
Firms (observations) with data only in either pre- or post-hire period	50	98	148	1,112
Observations changed status from affiliated hires to unaffiliated hires or vice versa due to auditor change after the hire				<u>251</u>
Firms (observations) available for pre- versus post-hire comparisons for specifications of long-window (quarterly) ERC	<u>100</u>	<u>229</u>	<u>329</u>	<u>5,913</u>
Sample for short-window (three-day) ERC specifications				
observations missing forecasts (IBES), security returns (CRSP), or control variables (COMPUSTAT)	22	83	105	7,489
Firms (observations) with data only in either pre- or post-hire period	71	126	197	1,224
Observations changed status from affiliated hires to unaffiliated hires or vice versa due to auditor change after the hire				<u>113</u>
Firms (observations) available for pre- versus post-hire comparisons for specifications of short-window (three-day) ERC	<u>65</u>	<u>151</u>	<u>216</u>	<u>3,606</u>

Table 2
Sample Profiles

Panel A: Samples distributed according to financial executive CPA affiliation

		Financial executive worked previously for the firm's auditor	Financial executive worked previously for an unaffiliated auditor
Long-window (quarterly return) sample			
Financial executive employed by an audit firm during the current or prior year	firms	<i>affiliated hires</i> 100	41
	observations		
	pre-hire	913	350
	post-hire	1,029	423
Financial executive <i>not</i> employed by an audit firm during the current or prior year	firms	57	131
	observations		
	pre-hire	468	1,157
	post-hire	561	1,263

Short-window (three-day return) sample			
Financial executive employed by an audit firm during the current or prior year	firms	<i>affiliated hires</i> 65	20
	observations		
	pre-hire	562	151
	post-hire	607	192
Financial executive <i>not</i> employed by an audit firm during the current or prior year	firms	46	85
	observations		
	pre-hire	344	681
	post-hire	346	723

Shaded areas indicate affiliated hires identified as firms that hired a financial executive who worked previously for the firm's auditor during the current or prior year. The total numbers of unaffiliated hires are the sums for the other three cells, which are 229 firms (4,222 observations) for the long-window and 151 firms (2,437 observations) for the short-window samples.

Panel B: Distributions of hires by calendar year of hire

	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
Long-window (quarterly return) sample										
Affiliated Hires	3	8	6	15	14	8	10	21	15	100
Unaffiliated Hires	14	6	13	21	27	16	41	47	44	229
Short-window (three-day return) sample										
Affiliated Hires	2	5	4	10	9	5	6	13	11	65
Unaffiliated Hires	8	3	8	17	17	9	24	35	30	151

Table 3
Descriptive Statistics

Panel A: Descriptive statistics for the long-window (quarterly) ERC sample (n = 5,913)

Variable	Whole sample					Comparison of mean between unaffiliated and affiliated firms		
	Mean	Sd. Dev	First Quartile	Median	Third Quartile	<i>Unaffiliated</i>	<i>Affiliated</i>	<i>Comparison: Affiliated less Unaffiliated</i>
CAR1	0.026	0.364	-0.196	-0.021	0.170	0.028	0.023	-0.005 (0.666)
ES1	0.003	0.061	-0.007	0.002	0.008	0.004	0.000	-0.004 (0.056)
LNMV	5.495	1.985	4.069	5.389	6.825	5.229	6.086	0.857 (<0.001)
LEV	0.206	0.185	0.024	0.183	0.330	0.207	0.206	-0.001 (0.838)
BM	0.599	0.715	0.235	0.429	0.748	0.632	0.526	-0.106 (<0.001)
BETA	0.847	0.623	0.410	0.750	1.200	0.843	0.855	0.012 (0.510)
LOSS	0.307	0.461	0.000	0.000	1.000	0.345	0.224	-0.121 (<0.001)
QTR4	0.247	0.431	0.000	0.000	0.000	0.249	0.243	-0.006 (0.598)

Panel B: Descriptive statistics for the short-window (three-day) ERC sample (n = 3,606)

Variable	Whole sample					Comparison of mean between unaffiliated and affiliated firms		
	Mean	Sd. Dev	First Quartile	Median	Third Quartile	<i>Unaffiliated</i>	<i>Affiliated</i>	<i>Comparison: Affiliated less Unaffiliated</i>
CAR2	0.005	0.089	-0.038	0.004	0.048	0.004	0.005	0.001 (0.959)
ES2	0.000	0.006	0.000	0.000	0.001	-0.000	-0.000	0.000 (0.582)
LNMV	6.548	1.630	5.385	6.451	7.548	6.255	7.161	0.906 (<0.001)
LEV	0.488	0.226	0.313	0.499	0.648	0.492	0.479	-0.013 (0.094)
BM	0.443	0.331	0.220	0.358	0.575	0.458	0.411	-0.047 (<0.001)
BETA	1.017	0.642	0.550	0.890	1.370	1.022	1.006	-0.016 (0.491)
LOSS	0.169	0.375	0.000	0.000	0.000	0.196	0.113	-0.083 (<0.001)
QTR4	0.227	0.419	0.000	0.000	0.000	0.227	0.228	0.001 (0.988)

Notes for Table 3

Panel A shows descriptive statistics for the long-window sample. *CARI* is the cumulative abnormal return for the three-month period ending one month after the fiscal quarter end, where the abnormal return is the firm's return less the CRSP value-weighted market return; *ESI* is the quarterly earnings surprise computed as quarterly earnings per share less earnings per share of the same quarter of last year deflated by the stock price at the beginning of the quarter. Panel B shows descriptive statistics for the short-window sample. *CAR2* is the cumulative abnormal return measured over the three-trading-day period centered on the quarterly earnings announcement date, where the abnormal return is the firm's return less the CRSP value-weighted market return; *ES2* is the quarterly earnings surprise computed as quarterly earnings per share less the median of analyst forecasts outstanding within 90 days prior to the day before the earnings announcement deflated by the stock price at the beginning of the quarter.

Other variables are included as control variables in regression specifications. *LNMV* is log of the market value of common equity at the beginning of the quarter, *LEV* is the debt to asset ratio at the beginning of the quarter; *BM* is the book to market ratio at the beginning of the quarter; *BETA* is firm beta, estimated over 200 trading days prior to the earnings announcement period; *LOSS* is 1 for negative quarterly earnings and 0 otherwise; and *QTR4* is 1 for the fourth-quarter earnings announcement.

The last three columns in each table indicate comparisons for affiliations with unaffiliated hires. Two-tailed significance levels for tests that the difference in means between firms that hired affiliated auditors and firms that hired unaffiliated auditors are displayed parenthetically.

Table 4

Comparisons of ERC: Three Years Before versus Three Years after Hiring an Affiliated versus Unaffiliated Financial Executive

Panel A: Sample for the long-window (quarterly) ERC sample (n = 5,913)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_1 =$	1.427 (<0.001)	$\beta_1 + \beta_3 =$	1.575 (<0.001)	$\beta_3 =$	0.148 (0.579)
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	1.811 (<0.001)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	0.744 (0.067)	$\beta_3 + \beta_4 =$	-1.067 (0.054)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	0.384 (0.420)	$\beta_2 + \beta_4 =$	-0.831 (0.007)	$\beta_4 =$	-1.215 (0.036)

Panel B: Sample for the short-window (three-day) ERC sample (n = 3,606)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_1 =$	5.714 (<0.001)	$\beta_1 + \beta_3 =$	4.985 (<0.001)	$\beta_3 =$	-0.729 (0.376)
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	7.056 (<0.001)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	2.952 (0.002)	$\beta_3 + \beta_4 =$	-4.104 (0.009)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	1.342 (0.409)	$\beta_2 + \beta_4 =$	-2.033 (0.033)	$\beta_4 =$	-3.375 (0.059)

Entries computed using estimates from the following specification

$$CAR = \beta_0 + ES (\beta_1 + \beta_2 AFFIL + \beta_3 AFTER + \beta_4 AFFIL * AFTER) + controls + \varepsilon,$$

CAR is equal to *CAR1* and *ES* is equal to *ES1* for panel A; *CAR* is equal to *CAR2* and *ES* is equal to *ES2* for panel B. *CAR1*, *ES1*, *CAR2* and *ES2* are defined in Table 3. *AFFIL* distinguishes observations where the firm makes an affiliated hire; *AFTER* distinguishes observations after the year that the firm hires a CPA as its financial executive. Control variables include interactions of *ES* with book to market ratio, firm Beta (estimated over 200 trading days prior to the earnings announcement period), firm size (log of the market value of common equity), leverage, the presence of negative quarterly earnings and an indicator variable for the fourth-quarter earnings announcement. Specifications with control variables also include the main effects of the dummy variables *AFFIL* and *AFTER*, the interaction *AFFIL * AFTER*, and calendar year dummy variables. Two-tailed significance levels for tests that the parameters (or parameter combinations) differ from zero are displayed parenthetically. Significance tests are based on the Huber-White t-statistic with the observations clustered by the firm identity. To simplify the presentation, estimates for control variables are not tabulated.

Table 5

**Affiliated versus Unaffiliated ERC Comparisons
Sample Partitions by Complexity and Audit Committee Characteristics**

Panel A: Long-window (quarterly) sample partitioned by complexity

	High complexity scores (n=2,785)			Low complexity scores (n=2,784)		
	<i>Before</i>	<i>After</i>	<i>Comparison</i>	<i>Before</i>	<i>After</i>	<i>Comparison</i>
<i>Unaffiliated</i>	1.126 (0.002)	1.658 (<0.001)	0.532 (0.081)	2.047 (<0.001)	1.512 (<0.001)	-0.535 (0.210)
<i>Affiliated</i>	1.666 (0.032)	1.527 (0.003)	-0.139 (0.873)	1.571 (0.015)	0.115 (0.860)	-1.456 (0.139)
<i>Comparison</i>	0.540 (0.458)	-0.131 (0.775)	-0.671 (0.449)	-0.476 (0.524)	-1.397 (0.007)	-0.921 (0.367)

Panel B: Short-window (three-day) sample partitioned by complexity

	High complexity scores (n=1,692)			Low complexity scores (n=1,688)		
	<i>Before</i>	<i>After</i>	<i>Comparison</i>	<i>Before</i>	<i>After</i>	<i>Comparison</i>
<i>Unaffiliated</i>	7.723 (<0.001)	7.904 (<0.001)	0.181 (0.898)	5.320 (<0.001)	3.770 (<0.001)	-1.550 (0.109)
<i>Affiliated</i>	5.911 (0.002)	5.891 (<0.001)	-0.020 (0.993)	8.100 (<0.001)	1.746 (0.207)	-6.354 (0.006)
<i>Comparison</i>	-1.812 (0.406)	-2.013 (0.223)	-0.201 (0.939)	2.780 (0.168)	-2.024 (0.094)	-4.804 (0.042)

Panel C: Long-window (quarterly) sample partitioned by audit committee characteristics

	Firms with an accounting expert and only independent directors on the audit committee (n=1,013)			Firms without an accounting expert or with employees or grey directors on the audit committee (n=4,503)		
	<i>Before</i>	<i>After</i>	<i>Comparison</i>	<i>Before</i>	<i>After</i>	<i>Comparison</i>
<i>Unaffiliated</i>	0.315 (0.496)	0.567 (0.099)	0.252 (0.516)	1.732 (<0.001)	2.047 (<0.001)	0.315 (0.269)
<i>Affiliated</i>	1.234 (0.146)	0.887 (0.157)	-0.347 (0.754)	1.913 (<0.001)	0.695 (0.157)	-1.218 (0.072)
<i>Comparison</i>	0.919 (0.171)	0.320 (0.579)	-0.599 (0.574)	0.181 (0.753)	-1.352 (<0.001)	-1.533 (0.034)

Panel D: Short-window (three-day) sample partitioned by audit committee characteristics

	Firms with an accounting expert and only independent directors on the audit committee (n=650)			Firms without an accounting expert or with employees or grey directors on the audit committee (n=2,932)		
	<i>Before</i>	<i>After</i>	<i>Comparison</i>	<i>Before</i>	<i>After</i>	<i>Comparison</i>
<i>Unaffiliated</i>	7.638 (0.004)	5.495 (0.004)	-2.143 (0.176)	5.248 (<0.001)	4.726 (<0.001)	-0.522 (0.621)
<i>Affiliated</i>	3.585 (0.298)	3.347 (0.452)	-0.238 (0.962)	7.681 (<0.001)	2.699 (0.011)	-4.982 (0.002)
<i>Comparison</i>	-4.053 (0.323)	-2.148 (0.635)	1.905 (0.720)	2.433 (0.175)	-2.027 (0.051)	-4.460 (0.021)

Notes for Table 5

Entries computed using estimates from the following specification

$$CAR = \beta_0 + ES (\beta_1 + \beta_2 AFFIL + \beta_3 AFTER + \beta_4 AFFIL * AFTER) + controls + \varepsilon,$$

CAR is equal to *CAR1* and *ES* is equal to *ES1* for panel A and panel C; *CAR* is equal to *CAR2* and *ES* is equal to *ES2* for panel B and panel D. The variables used and the model specification are described in Table 4. Two-tailed significance levels for tests that the parameters (or parameter combinations) differ from zero are displayed parenthetically. Significance tests are based on the Huber-White t-statistic with the observations clustered by the firm identity. Measures used to partition the observations are not available for all sample firms, and thus, combined numbers of observations for partitions do not sum to the total number of observations used in Table 4. Complexity scores used to delineate observations in Panel A are computed as linear combinations of measures advanced in Wang (2006) and Gore, Matsunaga, and Yeung (2008). To simplify the presentation, estimates for control variables are not tabulated.

Table 6

Comparisons of earnings persistence: Three Years before versus Three Years after Hiring an Affiliated versus Unaffiliated Financial Executive

Panel A: Earnings persistence for the long-window (quarterly) ERC sample (n =5,913)

	<u>Earnings persistence before the hire</u>		<u>Earnings persistence after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	η_1	0.490 (<0.001)	$\eta_{1+} \eta_3$	0.576 (<0.001)	η_3	0.086 (0.073)
<i>Affiliated</i>	$\eta_{1+} \eta_2$	0.631 (<0.001)	$\eta_{1+} \eta_{2+} \eta_{3+}$ η_4	0.507 (<0.001)	$\eta_{3+} \eta_4$	-0.124 (0.118)
<i>Comparison: Affiliated less Unaffiliated</i>	η_2	0.141 (0.089)	$\eta_{2+} \eta_4$	-0.069 (0.337)	η_4	-0.210 (0.024)

Panel B: Earnings persistence for the short-window (three-day) ERC sample (n =3,058)

	<u>Earnings persistence before the hire</u>		<u>Earnings persistence after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	η_1	0.505 (<0.001)	$\eta_{1+} \eta_3$	0.623 (<0.001)	η_3	0.118 (0.080)
<i>Affiliated</i>	$\eta_{1+} \eta_2$	0.701 (<0.001)	$\eta_{1+} \eta_{2+} \eta_{3+}$ η_4	0.446 (<0.001)	$\eta_{3+} \eta_4$	-0.255 (0.013)
<i>Comparison: Affiliated less Unaffiliated</i>	η_2	0.196 (0.084)	$\eta_{2+} \eta_4$	-0.177 (0.049)	η_4	-0.373 (0.002)

Entries computed using estimates from the following specification

$$EPS_t = \eta_0 + EPS_{t-4} (\eta_1 + \eta_2 AFFIL + \eta_3 AFTER + \eta_4 AFFIL * AFTER) + \eta_5 AFFIL + \eta_6 AFTER + \eta_7 AFFIL * AFTER + \eta_m \text{ year dummies} + \varepsilon,$$

EPS_t is earnings per share of quarter t; EPS_{t-4} is earnings per share of quarter t-4; $AFFIL$ distinguishes observations where the firm makes an affiliated hire; $AFTER$ distinguishes observations after the year that the firm hires a CPA as financial executive. Two-tailed significance levels for tests that the parameters (or parameter combinations) differ from zero are displayed parenthetically. Significance tests are based on the Huber-White t-statistic with the observations clustered by firm identity. To simplify the presentation, estimates for η_5 through η_m control variables are not tabulated.

Appendix A1

Probit Regression of determinants of affiliated hiring

Variable	Coefficient (p-value)
<i>LN_ASSETS</i>	0.090 (0.096)
<i>LN_FIRMAGE</i>	-0.170 (0.086)
<i>ROA</i>	0.794 (0.020)
<i>LEV</i>	-0.464 (0.136)
<i>BM</i>	-0.116 (0.306)
<i>TENURE</i>	0.052 (0.092)
<i>CFO</i>	-0.221 (0.162)
<i>FEMALE</i>	-0.011 (0.964)
<i>CPAAGE</i>	-0.068 (<0.001)
<i>PARTNER</i>	0.738 (<0.001)
Observations	392
<i>Chi</i> ²	65.88
<i>Pseudo R</i> ²	0.141

For Panel B, entries computed using estimates from the following specification

$$Pr(AFFIL) = \Phi(\beta_0 + \beta_1 LN_ASSETS + \beta_2 LN_FIRMAGE + \beta_3 ROA + \beta_4 LEV + \beta_5 BM + \beta_6 TENURE + \beta_7 CFO + \beta_8 FEMALE + \beta_9 CPAAGE + \beta_{10} PARTNER + \varepsilon)$$

where *LN_ASSETS* is the natural logarithm of total assets; *LN_FIRMAGE* is the natural logarithm of firm age; *ROA* is return on total assets; *LEV* is the ratio of total debt to total stockholders' equity; *BM* is the book value of equity to market value of equity; *TENURE* is the number of years the auditor has been the auditor for the client, capped at nine; *CFO* is equal to 1 if the individual joined as CFO, and 0 otherwise; *FEMALE* is equal to 1 if the individual is female, and 0 otherwise; *CPAAGE* is the age of the new financial executive in the year when s/he is hired; *PARTNER* is equal to 1 if the individual was a partner at the CPA firm, and 0 if the individual was a manager.

Appendix A2

Comparisons of ERC with Control for the Inverse Mill's Ratio

Panel A: Sample for the long-window (quarterly) ERC sample (n = 5,058)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_1 =$	1.376 (0.215)	$\beta_1 + \beta_3 =$	1.439 (0.190)	$\beta_3 =$	0.063 (0.838)
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	1.826 (0.126)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	0.532 (0.628)	$\beta_3 + \beta_4 =$	-1.294 (0.036)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	0.450 (0.350)	$\beta_2 + \beta_4 =$	-0.907 (0.022)	$\beta_4 =$	-1.357 (0.040)

Panel B: Sample for the short-window (three-day) ERC sample (n = 3,008)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_1 =$	2.643 (0.380)	$\beta_1 + \beta_3 =$	1.681 (0.557)	$\beta_3 =$	-0.962 (0.294)
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	4.052 (0.200)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	0.655 (0.797)	$\beta_3 + \beta_4 =$	-3.397 (0.060)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	1.409 (0.457)	$\beta_2 + \beta_4 =$	-1.026 (0.319)	$\beta_4 =$	-2.435 (0.229)

Entries computed using estimates from the following specification

$$CAR = \beta_0 + ES (\beta_1 + \beta_2 AFFIL + \beta_3 AFTER + \beta_4 AFFIL * AFTER) + controls + \varepsilon,$$

The variables used are described in Table 4. Control variables include those used in Table 4 and the inverse Mill's ratio generated from Appendix A1 and its interaction with *ES*. Two-tailed significance levels for tests that the parameters (or parameter combinations) differ from zero are displayed parenthetically. Significance tests are based on the Huber-White t-statistic with the observations clustered by the firm identity.

Appendix A3

Comparisons of ERC Samples Matched by Propensity Score

Panel A: Sample for the long-window (quarterly) ERC sample (n = 1,734)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_1 =$	2.590 (<0.001)	$\beta_1 + \beta_3 =$	2.707 (<0.001)	$\beta_3 =$	0.117 (0.850)
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	4.200 (<0.001)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	2.139 (0.008)	$\beta_3 + \beta_4 =$	-2.061 (0.006)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	1.610 (0.080)	$\beta_2 + \beta_4 =$	-0.568 (0.508)	$\beta_4 =$	-2.178 (0.037)

Panel B: Sample for the short-window (three-day) ERC sample (n = 870)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_1 =$	3.102 (0.050)	$\beta_1 + \beta_3 =$	9.885 (<0.001)	$\beta_3 =$	6.783 (0.001)
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	13.284 (<0.001)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	7.253 (<0.001)	$\beta_3 + \beta_4 =$	-6.031 (0.002)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	10.182 (<0.001)	$\beta_2 + \beta_4 =$	-2.632 (0.047)	$\beta_4 =$	-12.814 (<0.001)

Entries computed using estimates from the following specification

$$CAR = \beta_0 + ES (\beta_1 + \beta_2 AFFIL + \beta_3 AFTER + \beta_4 AFFIL * AFTER) + controls + \varepsilon,$$

The variables used and the model specification are described in Table 4. Each firm with affiliated financial executive is matched with a firm with unaffiliated financial executive with the closest propensity score of hiring affiliated executive. The matching procedure follows Lennox and Francis (2008). Two-tailed significance levels for tests that the parameters (or parameter combinations) differ from zero are displayed parenthetically. Two-tailed significance levels for tests that the parameters (or parameter combinations) differ from zero are displayed parenthetically. Significance tests are based on the Huber-White t-statistic with the observations clustered by the firm identity.

Appendix B

Comparisons of Annual Accounting Based Measures Three Years Before versus the Three Years after Hiring an Affiliated versus Unaffiliated Financial Executive

Panel A: Persistence of annual earnings (n = 2,138)

	<u>before the hire</u>		<u>after the hire</u>		Comparison <u>After-Before</u>	
	<i>Unaffiliated</i>	$\beta_1 =$	0.599 (<0.001)	$\beta_1 + \beta_3 =$	0.527 (<0.001)	$\beta_3 =$
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	0.485 (<0.001)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	0.572 (<0.001)	$\beta_3 + \beta_4 =$	0.087 (0.444)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	-0.114 (0.334)	$\beta_2 + \beta_4 =$	0.045 (0.579)	$\beta_4 =$	0.159 (0.223)

Panel B: Absolute value of residuals from regressions relating current accruals to cash flows— Dechow and Dichev (2002) (n = 1,575)

	<u>before the hire</u>		<u>after the hire</u>		Comparison <u>After-Before</u>	
	<i>Unaffiliated</i>	$\beta_1 =$	0.412 (<0.001)	$\beta_1 + \beta_3 =$	0.405 (0.004)	$\beta_3 =$
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	0.406 (0.002)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	0.401 (0.009)	$\beta_3 + \beta_4 =$	-0.005 (0.367)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	-0.006 (0.314)	$\beta_2 + \beta_4 =$	-0.004 (0.427)	$\beta_4 =$	0.002 (0.790)

Panel C: Discretionary accruals (n = 1,833)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		Comparison <u>After-Before</u>	
	<i>Unaffiliated</i>	$\beta_1 =$	-0.016 (0.590)	$\beta_1 + \beta_3 =$	-0.028 (0.372)	$\beta_3 =$
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	-0.023 (0.448)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	-0.029 (0.333)	$\beta_3 + \beta_4 =$	-0.006 (0.711)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	-0.007 (0.632)	$\beta_2 + \beta_4 =$	-0.001 (0.905)	$\beta_4 =$	0.006 (0.760)

Appendix B (Continued)

Panel D: Absolute value of discretionary accruals (n = 1,833)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_1 =$	0.114 (<0.001)	$\beta_1 + \beta_3 =$	0.098 (<0.001)	$\beta_3 =$	-0.016 (0.109)
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	0.115 (<0.001)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	0.079 (0.004)	$\beta_3 + \beta_4 =$	-0.036 (0.008)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	0.001 (0.951)	$\beta_2 + \beta_4 =$	-0.019 (0.055)	$\beta_4 =$	-0.020 (0.164)

Entries for panel A computed using estimates from the following specification.

$$EPS_t = \beta_0 + EPS_{t-1} (\beta_1 + \beta_2 AFFIL + \beta_3 AFTER + \beta_4 AFFIL * AFTER) + \beta_5 AFFIL + \beta_6 AFTER + \beta_7 AFFIL * AFTER + year\ dummies + \varepsilon$$

Entries for other panels computed using estimates from the following specification.

$$EQ = \beta_1 + \beta_2 AFFIL + \beta_3 AFTER + \beta_4 AFFIL * AFTER + year\ dummies + \varepsilon$$

EPS_t is the current year earnings per share; EPS_{t-1} is the prior year earnings per share; $AFFIL$ distinguishes observations where the firm makes an affiliated hire; $AFTER$ distinguishes observations after the year that the firm hires a CPA as financial executive; EQ is the absolute value of residuals from regressions relating current accruals to cash flows for Panel B, level of discretionary accruals for Panel C, absolute value of discretionary accruals for Panel D. For Panel B, we follow Kim and Venkatachalam (2007) by measuring earnings quality as the absolute value of residuals from regressions relating current accruals to cash flows, using a modified version of Dechow and Dichev's (2002) model. Higher absolute value of residual implies lower earnings quality. For Panel C, we measure earnings quality by performance-matched discretionary accruals based on modified-Jones model as in Kothari, Leone, and Wasley (2005). For Panel D, we measure earnings quality by the absolute value of discretionary accruals. We include year dummies to control for temporal change in earnings quality. To be consistent with the ERC regressions, we also require sample firms with data both in pre- and post-hire periods and drop observations changed from affiliated hires to unaffiliated hires or vice versa due to auditor change after the hire. Two-tailed significance levels for tests that the parameters (or parameter combinations) differ from zero are displayed parenthetically. Significance tests are based on the Huber-White t-statistic with the observations clustered by firm identity.

Appendix C

Comparisons of using earnings levels and earnings changes Three Years Before versus Three Years after Hiring an Affiliated versus Unaffiliated Financial Executive

Panel A: estimates for earnings changes (n = 5,913)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_1 =$	1.351 (<0.001)	$\beta_1 + \beta_3 =$	1.331 (<0.001)	$\beta_3 =$	-0.020 (0.947)
<i>Affiliated</i>	$\beta_1 + \beta_2 =$	2.408 (<0.001)	$\beta_1 + \beta_2 + \beta_3 + \beta_4 =$	0.454 (0.284)	$\beta_3 + \beta_4 =$	-1.954 (0.002)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_2 =$	1.057 (0.037)	$\beta_2 + \beta_4 =$	-0.877 (0.011)	$\beta_4 =$	-1.934 (0.004)

Panel B: estimates for earnings levels (n = 5,913)

	<u>ERC before the hire</u>		<u>ERC after the hire</u>		<u>Comparison After-Before</u>	
<i>Unaffiliated</i>	$\beta_5 =$	1.561 (0.012)	$\beta_5 + \beta_7 =$	1.855 (0.001)	$\beta_7 =$	0.294 (0.271)
<i>Affiliated</i>	$\beta_5 + \beta_6 =$	0.566 (0.465)	$\beta_5 + \beta_6 + \beta_7 + \beta_8 =$	1.949 (0.002)	$\beta_7 + \beta_8 =$	1.383 (0.056)
<i>Comparison: Affiliated less Unaffiliated</i>	$\beta_6 =$	-0.995 (0.147)	$\beta_6 + \beta_8 =$	0.094 (0.752)	$\beta_8 =$	1.089 (0.158)

Entries computed using estimates from the following specification

$$CAR_t = \beta_0 + ESt (\beta_1 + \beta_2 AFFIL + \beta_3 AFTER + \beta_4 AFFIL * AFTER) +$$

$$Et (\beta_5 + \beta_6 AFFIL + \beta_7 AFTER + \beta_8 AFFIL * AFTER) + controls + \varepsilon,$$

ES: earnings changes

E: earnings level

Appendix D
Coefficients for all the variables in Table 4

	Long-window ERC sample	Short-window ERC sample
Constant	0.156 (0.090)	0.030 (0.123)
AFFIL	0.028 (0.102)	0.004 (0.388)
AFTER	0.035 (0.045)	0.010 (0.028)
AFFIL*AFTER	-0.040 (0.084)	-0.007 (0.155)
ES	1.427 (0.000)	5.714 (0.000)
ES*AFFIL	0.384 (0.420)	1.342 (0.409)
ES*AFTER	0.148 (0.579)	-0.729 (0.376)
ES*AFFIL*AFTER	-1.215 (0.036)	-3.375 (0.059)
LEV	-0.020 (0.602)	-0.006 (0.431)
BM	0.017 (0.252)	0.010 (0.074)
LNMV	-0.015 (0.000)	-0.000 (0.795)
BETA	0.011 (0.338)	-0.002 (0.598)
QTR4	-0.006 (0.554)	-0.004 (0.281)
LOSS	-0.056 (0.000)	-0.014 (0.012)
ES*LEV	0.326 (0.508)	-1.675 (0.152)
ES*BM	-0.124 (0.111)	-0.219 (0.786)
ES*LNMV	0.154 (0.026)	0.535 (0.059)
ES*BETA	-0.263 (0.196)	-0.225 (0.696)
ES*QTR4	-0.844 (0.000)	-0.753 (0.306)
ES*LOSS	-0.173 (0.444)	-2.543 (0.001)
Year dummies	included	included
Observations	5,913	3,606
R-squared	0.061	0.047

CAR is equal to *CAR1* and *ES* is equal to *ES1* for the long-window ERC sample; *CAR* is equal to *CAR2* and *ES* is equal to *ES2* for the short-window ERC sample. The variables used and the model specification are described in Table 4. Two-tailed significance levels for tests that differ from zero are displayed parenthetically. Significance tests are based on the Huber-White t-statistic with the observations clustered by the firm identity.

Appendix E

Coefficients for all the variables in Table 6

	Long-window ERC sample	Short-window ERC sample
Constant	0.043 (0.559)	0.193** (0.009)
EPS _{t-4}	0.490** (0.000)	0.505** (0.000)
ES*AFFIL	0.141 (0.089)	0.196 (0.084)
ES*AFTER	0.086 (0.073)	0.118 (0.080)
ES*AFFIL*AFTER	-0.210* (0.024)	-0.373** (0.002)
AFFIL	0.038 (0.142)	-0.000 (0.995)
AFTER	0.030 (0.151)	0.018 (0.588)
AFFIL*AFTER	-0.026 (0.360)	0.027 (0.573)
Year dummies	included	included
Observations	5,913	3,058
R-squared	0.331	0.365